

ABSTRACT OF THE DISCLOSURE

Lethal Toxin Neutralizing Factor has been isolated in purity from
5 opossum serum by high pressure liquid chromatography (HPLC)
fractionation. The amino acid sequence from the N-terminal for the
first fifteen amino acids of LTNF-n is: Leu Lys Ala Met Asp Pro Thr Pro
Pro Leu Trp Ile Lys Thr Glu. Antibodies to LTNF-n and synthetic
10 peptides consisting of fifteen, ten and five amino acids from the N-
terminal of the above sequence, designated as LTNF-15, LTNF-10 and
LTNF-5 were produced by immunizing Balb/C mice to produce Anti-
LTNF-n, Anti-LTNF-15, Anti-LTNF-10 and Anti-LTNF-5. The anti
LTNF-n, anti-LTNF-15, anti-LTNF-10 and anti-LTNF-5 react
15 immunologically with all types of toxins derived from animal, plant
and bacteria and can be assayed by immunological in vitro test such
as ELISA tests. Anti-LTNFs react roughly proportional to lethal dose
of biological toxins under in vitro immunological ELISA test similar to
the mouse bioassay test. This property of anti-LTNFs can be utilized
20 to replace the use of animals for bioassay of toxins from animal, plant
and bacteria. Anti-LTNFs can be polyclonal raised in animals or
monoclonal made in hybridomas. Anti-LTNFs can be used in crude
form for immunological in vitro testing. However, purified IgG from
the anti LTNFs is most desirable for consistent results from the in
vitro tests. In general, the in vitro use of Anti-LTNFs is a replacement
25 for animal use as is currently required for the assay of biological
toxins.

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